

THE
AMERICAN PRACTITIONER:

A MONTHLY JOURNAL OF
MEDICINE AND SURGERY.

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LOUISVILLE, KY:
JOHN P. MORTON AND COMPANY,
PUBLISHERS.

THREE DOLLARS PER ANNUM.

CONTENTS.

ORIGINAL COMMUNICATIONS:

CHOLERA HYGIENE. BY ELY MCCLELLAN, M. D.....	129
DIAGNOSIS OF ABDOMINAL AND PELVIC TUMORS. BY J. C. REEVE, M. D....	149
REVIEWS	161
CLINIC OF THE MONTH.....	173
NOTES AND QUERIES.....	183

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THE AMERICAN PRACTITIONER:

A MONTHLY JOURNAL OF

MEDICINE AND SURGERY.

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THE AMERICAN PRACTITIONER.

MARCH, 1874.

Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than any thing else.—RUSKIN.

Original Communications.

CHOLERA HYGIENE.

BY ELY M'CLELLAN, M. D.,

Assistant Surgeon U. S. A.

Cholera having been demonstrated to be a contagious disease, which is spread by the dejections of individuals suffering from choleraic diarrhea as well as from the developed disease, it becomes a matter of vital importance to inquire what means may be employed to prevent or arrest the development of the disease in any threatened community.

That the occurrence of cholera may be prevented by proper precautions, and that it may be stamped out when once developed, is most certain. To insure this grand result is necessary the concerted action of each and every individual. One careless or indifferent member of a community may not only render negative the wisest precautions, but may endanger the lives of all.*

*Report on Epidemic Cholera, Circular No. 5, Surgeon General's Office, Washington, 1867; The Mecca Pilgrimage and the Cholera, Medical Times and Gazette, April 26, 1873; Prophylaxis of Asiatic Cholera (McCormac), British Medical Journal, August 23, 1873; Progress of Sanitary Science, British Medical Journal, October 25, 1873.

The results obtained by experienced observers demonstrate that the means of prevention against a general epidemic of cholera are:

- I. *Quarantine*;
- II. *Cleanliness*;
- III. *Disinfection*;
- IV. *Individual Habits*.

I. *QUARANTINE*.—With the subject of quarantine, from the geographic location of the territory to the inhabitants of which these pages are addressed, but little of interest presents itself. Cholera, following the great lines of travel, only reaches the interior of a continent after the note of warning has been sounded from one or other of the ports of entrance. At such points the subject is of vital importance; but the disease having escaped the cordon, and having become domesticated in any community, it behooves all within the lines of travel from that infected point to consider carefully and earnestly such means of prevention as the knowledge which sanitarians possess of the disease has placed at the disposal of the public.

II. *CLEANLINESS*.—Cleanliness in what? Cleanliness in every thing. To maintain the perfect sanitary condition of a large city trained minds are devoted and thousands of money are lavishly expended; but in the small interior towns, with some few bright exceptions, little or no attention is paid to the subject, each property-holder following the bent of his own mind. In these towns the streets and natural drainage sources are the receptacles of filth. The ground within and around out-houses is the depository of human excrement. The negro in his cabin is permitted to rival the pollutions of Jessore or Madras, while the only scavengers to be found are the hogs that roam the streets. The latter, after devouring indescribable filth, are presently served as articles of food.

To secure the best sanitary condition of a town, it should be the duty of the trustees to appoint an inspector, who should have at his command an efficient corps of laborers. By this inspector all that is detrimental to the public health should be removed.

To what should his attention be directed?

1. *To the condition of each house and its surrounding premises.*—*Débris* of all kinds should be collected in heaps and destroyed by fire. No rank vegetation, which too often conceals pernicious substances, should be allowed to stand, and when cut down should be destroyed by fire. Out-houses of all kinds should be inspected. Privies, stables, chicken-houses, etc., should be cleaned and disinfected. The *débris* should be buried in such position as not to affect the water-supply. Dirty and damp cellars should be cleansed, ventilated, and disinfected.

The water-supply should be rigidly examined, and property-holders required to place their wells and cisterns in good condition. *Débris* should not be permitted to accumulate upon the ground. The well should be securely covered and closed. The sides should be banked up, so that the surface-washings may be from, not to, it.

Despite the theory of Pettenkofer, the action of the soil as a filter surpasses all others, and from a carefully-kept well pure drinking-water may always be obtained. If a privy-vault should be close to a well, or if a house or other drain should pass in its immediate vicinity, the walls of that well should be rigidly and frequently examined, and water taken from the bottom of the well carefully tested, lest contaminating drainage may occur; and all wells so situated that they must inevitably receive impure drainage or surface-washings must be closed in such manner as will absolutely prevent access to their contents. Localities which in a past season had been infected, and where systematic disinfection had not been instituted during the prevalence of the disease, should be most

carefully cleansed. Every portion of the premises upon which cases of cholera had occurred should be reached by the disinfecting agents. It should be borne in mind that it is far more prudent to err from overzealous cautiousness than from negligence.

Individuals arriving in any community from a locality known to be infected should be at least subjected to a close surveillance. If their effects have been so situated that by any possibility they could have become infected, they should be subjected to sufficient disinfection. The individuals should be required to use a carefully-disinfected privy until the uttermost limit which can be placed on the period of the incubation of cholera has been passed. For the efficient disinfection of clothing, etc., no plan proposed exhibits more favorable results than that of Dr. Ransom.* In the use of this hot-air closet it was found that a temperature of 250° F. was effectual in destroying the contagion of small-pox.

A rigid house-to-house system of inspection, once having been established, should never be abandoned. An occasional inspection amounts to nothing. Eternal vigilance is the price of safety.

2. *To the condition of the natural drainage of the town,* water-courses and other natural drains should be kept free and unobstructed, and disinfectants should be constantly used throughout their length. The vegetation which almost invariably lines the streets of small towns and chokes the roadside drains should be removed; and then not left to decay in the center of the road, but should be removed beyond the town limits and there destroyed with fire. Ponds and pools of stagnant water within or near the limits of the town should be filled up; filled up not with the *débris* of the town, but with fresh earth, which is one of the most valuable disinfecting agents.

Cholera having appeared in a town, it is desirable that

* British Medical Journal, September, 1873.

the authorities select an isolated building, which may be used as a hospital. The house selected should be sufficiently commodious to prevent overcrowding, and to admit of the separation of the convalescents from the sick. This building should be placed in the charge of a competent physician, who should be assisted by a corps of nurses, and the hospital should be furnished with all necessary appliances. To this building all cases of cholera which occur should be removed.

A distinguished physician of Nashville has pointed out that in an epidemic of cholera want of proper food and the privations to which the lower classes are always subjected during an extensive epidemic adds fuel to the fire, and his suggestions of immediate relief of their wants is worthy the consideration of all town authorities.

The general cleanliness of a town having been secured, there remains to be noted that of individuals. Scrupulous care of the person secures the removal of what may and often does prove the nucleus of disease. Personal cleanliness is best secured by a daily bath. In the sultry and oppressive weather in which cholera most frequently makes its dread appearance, the bath, as hot as can be borne with comfort, affords the most efficient relief that one can secure. A thorough soaping and rubbing of the body with a flannel cloth removes all effete matter from the skin, and the free use of hot water imparts a cooling freshness, a solace from which none may be debarred; and which, taken in the early morning, invigorates to meet the fatigues of the day, and at night encourages refreshing and strengthening sleep.

The under-garments should be frequently changed, and those which have been worn during the day should invariably be removed on retiring to bed. Clothing that has been worn through the day should never be exposed in the sleeping-apartments during the night-hours, and should be well cleansed and aired before being again used.

Trivial and unnecessary as such rules may seem, the observance of them will be found of incalculable value.

III. DISINFECTION.—What vaccination is to small-pox hygienic regulations are to cholera. The rigid observance of sanitary laws presents to this virulent disease a wall which is almost insurmountable. The foundation of this wall—this line of demarkation between health and disease, between life and death—is undoubtedly laid in disinfectants. If the port of entry is passed by cholera, if the embargo there laid upon the disease has been insufficient to arrest its progress, it behooves each community to raise the wall for their own protection, and it is all the more necessary that the foundations are made sure.

The day has passed in which nauseous-smelling substances are looked upon as disinfectants. "To change the odor is not to disinfect. The odor produced by a putrescent animal mass may be covered, but the effete matter, the product of decomposition, is still present in the air that is breathed, although the nostrils, overpowered, fail to detect its presence." To borrow the words of Dr. Craig, "a true disinfectant must be antiseptic; that is, it must possess the power to destroy or to render inert the products of decomposition of organic matter or of morbid action in the living body through the agency of a reaction in which the disinfectant itself undergoes chemical destruction."* Therefore that agent is the most acceptable and useful which destroys utterly and for all time the effete matter with which it may come in contact.

A study of these agents renders it necessary that some one or other of the classes into which they have been divided should be adopted; but as it is unnecessary in a paper of this character to enter fully into the study, and as we will endeavor to point out those which will be most valuable in

* Report on Disinfectants and their use in connection with Cholera, Circular No. 5, S. G. O., Washington, 1867.

the emergency of which we are treating, we will pass over the complicated classifications of Jeannel and others and adopt that of Dr. Craig.

1. *Destructive disinfectants*, "which act by oxidizing and consuming whatever organic matter they may come in contact with, attacking the more advanced product of putrefaction first."

2. *Conservative disinfectants*, "which destroy effluvia and organic matter when in small quantities, but are inert upon large masses."

The action of the agents which are classed under these grand divisions, and their application, will be considered when treating of the emergencies which demand their use, and those only will be noted that are attainable by all classes of individuals.

Experience has taught us that water, that indispensable element, is a most efficient agent in the diffusion of cholera poison.

The question naturally arises, can water which is contaminated with organic matter be detected, and when detected can it be rendered by any process of purification safe for human use? Facts based upon extended observation demand an affirmative answer. To detect impure water, or water which has been contaminated by organic matter, Rawlinson says:

"If the water from a certain well or tank be placed in a tall glass, covered and exposed to the sun, and after twenty-four hours a drop be examined under the microscope, we find its surface covered with molecular matter and vibriones. We may be almost certain that the organic matter from which these vibriones are formed is capable of inducing cholera, supposing it, of course, to have been derived from cholera ejecta."*

This method of examination is certainly beyond the popular reach. Few individuals are skilled in the use of the microscope. Chemistry, however, affords a simpler means, and one which is within the reach of all.

* Rawlinson "On the Best Method of keeping Water Sweet." Macnamara, op. cit., p. 498.

Place a quantity of the suspected water in a glass vessel, and add, drop by drop, a solution of the permanganate of potash (which may be obtained from any chemist) until a pink color is imparted to the liquid. If after standing a short time the color disappears, it indicates the presence of organic matter. Add again the solution of the permanganate until the color is again produced. If the organic matter has all been decomposed, the water will after the lapse of hours retain the pink color; but if organic matter is still in solution, the color will again disappear. The greater the amount of the salt decolorized before the water retains the pink color, the larger the quantity of organic matter present in the water.

Before proceeding to the subject of the purification of water it is well to examine into the sources from which water for domestic purposes is ordinarily obtained.

In communities not provided with a carefully-delivered water-supply the purest water that can be employed for domestic purposes is that obtained from securely-guarded wells and from cisterns which are supplied with rain-water. They alone can be protected from surface-washings. Cistern-water, however, must be as carefully examined and tested as the well-water. Rain-water, it is well known, may contain organic matter of animal or vegetable origin. Even when it has been collected in a clean glass vessel, before it has come in contact with roof or soil, it has been found to be impure from organic matters, etc., which it has derived from the atmosphere in its passage through it, when taken near inhabited places.

Snow and snow-water is much less pure than rain-water, for the crystals of which it is composed imprison the impurities of the atmosphere; and it is said "that snow frequently contains so much organic matter as to show confervoid vegetation under exposure to light." *

The water of rivers, marshes, ditches, canals, and ponds

* Brande and Taylor's Chemistry, American ed., 1867, p. 138.

is contaminated with organic matter derived from decaying animal and vegetable remains, and from *débris* of all kinds which necessity or surface-washings empties into them. Necessity demands that the water of large rivers shall be employed by the cities and towns upon their banks. In such instances all the aids which science affords are employed in the purification of the fluid before it is distributed for general use. But stagnant water, or the water of nearly dry streams or that of marshes, should never be employed for domestic purposes until it has been deprived of its deleterious constituents.

Spring-water may be contaminated from surface-washings or from organic matter with which the strata of soil through which it passes may be impregnated.*

Impure water may be rendered serviceable and fit for use by boiling, which act precipitates most of the mineral constituents and destroys utterly all molecular matter.

Dr. Taylor, a returned missionary from China, reports that during a residence of many years among the Chinese no cases of cholera came under his observation; and this absence of the disease he attributes to the fact that tea is the beverage of the country; consequently nearly all the water which the inhabitants drink has been boiled.

By the process of filtration water may be thoroughly purified. Indeed so perfectly does the combination of boiling and filtration purify water that it is asserted that water in which cholera discharges have been mixed loses entirely its infecting properties on being subjected to these simple expedients.

Dr. Peters suggests an excellent filter for the poor "in one of the largest-sized common red flower-pots, suspended at a convenient height in a shady place, and having the hole in its base plugged with a sponge, so as to permit only an

* Brande and Taylor's Chemistry, p. 133; A Manual of Practical Hygiene (Parkes), p. 16; A Treatise on Hygiene (Hammond), p. 216.

exceedingly fine stream of water to pass through; the sponge to be frequently washed." Filters containing the black oxide of iron are said to be efficient in removing organic matter from water.

Of such vast importance does this subject become that during an epidemic of cholera in any community each family should be provided with drinking-water only after it has been subjected to some such process. Water so prepared, to which ice is added, is not only harmless but palatable. Ice may be used with impunity, for it is one of the purest forms of water when taken from a deep lake or pond. Faraday demonstrated the fact that water in freezing deposits nearly all of its constituents, and that the unfrozen portions contain the impurities.

Not unfrequently individuals are placed in such positions that they are unable to procure water which has been purified by either boiling or filtration. The permanganate of potash, which has already been noted, now becomes invaluable. The action of this salt is explained by Dr. Craig as follows:

"When the permanganate is added in suitable quantities to impure water it converts the organic matter into carbonic acid, water, etc., undergoing itself a gradual decomposition, with the deposition of insoluble dextoxide of manganese." "A method which will destroy organic matter in water without adding to it any thing unpleasant or injurious is an evident desideratum at all times, and especially during the prevalence of cholera, and there is perhaps no method more effectual and convenient than that by treatment by the permanganate."

The practical application of this agent requires the use of from half a grain to one grain of the salt to the gallon of water, and about two hours are required for its action. In smaller quantities the solution should be added, drop by drop, until the pink color is evident. In a tumblerful of water but a few moments are required for its purification. At some of the Indian stations, where the water was offensive from decaying organic matter, a few drops of the permanganate purified the water almost instantly.

The peroxide of hydrogen, an antozone, is said to be still more efficient in the purification of water. It is a powerful oxidizer, and completely destroys organic matter with which it comes in contact.

The late Ashantee war called forth, among other notes of moment, the invaluable memorandum of Crooks on the purification of drinking-water. This observer demonstrates: 1. That the organic matter in impure water may be divided into three classes: (a) Matter in a state of putrefaction; (b) Matter ready to become putrid; (c) Matter which is slow to decompose. 2. That the permanganate of potash acts powerfully upon organic matter of the first class, but that its power over substances of the remaining classes is not only slow but uncertain. 3. That a mixture—consisting of permanganate of lime, one part; sulphate of alumina, ten parts; fine clay, thirty parts—is the most effectual purification of drinking-water now known.

The use of impure water almost invariably results in the development of diseases of the alimentary mucous membrane, and of specific diseases, such as malarial and typhoid fevers and other affections; but simply impure water will not induce the disease known as cholera. To produce cholera from water it is essential that the *water must have received a portion of the organic matter from the dejecta of an individual who is infected with the disease.*

An unknown traveler infected with cholera may deposit his dejections in such position that the water-supply of a community will become infected. None knew of his arrival; his departure was not noted; therefore when days have passed, and cholera has been developed in persons who have used this contaminated water, the members of the community are at a loss to account for its development; but invariably a prompt and persistent inquiry along the line of infection will result in the detection of the individual who has scattered the disease.

It has been shown that privies, cesspools, and sewers, the receptacles of human excrement and of other forms of filth, become hot-beds for the dissemination of the cholera infection, when the dejections of an individual suffering from the disease are mixed with their contents. It has been further shown that the effluvia from such localities is impregnated with decomposing organic matter, and that when inhaled this organic matter becomes mixed with the saliva, is swallowed, and the disease is reproduced.

Experience, that mighty expression of power, has demonstrated that certain agents, classed under the general head of destructive disinfectants, will most effectually destroy this poison. Of these agents we will select but those whose efficiency has been well tested, and whose small cost places them within the reach of all classes—namely, *sulphate of iron, or copperas, lime, and charcoal.*

Each of these agents belongs to the class of destructive disinfectants; each acts promptly and powerfully upon organic matter, and a combination of the three procures a more powerful disinfecting agent for the purposes now under consideration. Dr. H. C. Wood thus describes the disinfecting action of copperas:*

“It is antiseptic, but it also decomposes sulphureted hydrogen, precipitating sulphide of iron. It is decomposed by ammonia; the oxide of iron, a persistent, powerful ozonizing agent, being precipitated. It slowly but persistently attacks organic matter about it, oxidizing it, and being reduced to a sulphide of iron.”

The experiments of Eckstein, made in a privy which was in daily use by a large number of persons, confirmed the value which has been assigned to this agent.

Macnamara† found in cholera dejections which were treated with sulphate of iron the infusoria and molecular action was instantly destroyed and did not recommence. His experiments fully substantiate the statements made by Dr. Budd in 1866, and by Dr. Angus Smith in 1869.

* Phila. Med. Times, July 12, 1873, p. 655.

† Macnamara, op. cit., p. 401.

Lime as a disinfectant is of value from its power of destroying organic matter by the process of oxidation, as well as by its powerful affinity for water. The chloride of lime as a disinfectant is claimed by Eckstein to be equal if not superior to sulphate of iron. Macnamara found, however, that although its presence in a cholera dejection arrested the action going on in the molecular matter for a time, it was very soon resumed. Charcoal acts as a mechanical disinfectant, entangling the organic matter in its meshes.

The most advantageous use which can be made of these agents is as follows: a mass composed of two parts of unslaked lime and one part of charcoal is cast upon the exposed surface of an impure privy or cesspool; upon this is poured after a few hours a solution of sulphate of iron, which has been prepared by adding the salt to boiling water in the proportion of five pounds to the gallon. A sufficient amount of this solution to saturate the mass should be used, and its application should be made daily.

In the consideration of agents which act as disinfectants to human excrement the value of fresh earth must not be overlooked. Its value during the late war in privy sinks, which were daily used by large numbers of men, was fully demonstrated. The practice, which is so universal through the Southwest, of defecating upon the ground and of leaving the excrement uncovered should be rigidly discountenanced, and the use of sinks which may be disinfected should be insisted upon. The modern earth closet, which is simple in its construction and so cheap as to be within the reach of all, should be universally provided for the use of females. Goodell* has shown how many and how serious are the disorders to which the female is liable arising from the miserably faulty closet conveniences which, especially in the country, are provided for their use.

During the prevalence of cholera it is most prudent for

* Philadelphia Medical Times, August, 1873.

those persons living in the immediate vicinity of infected localities to adopt some measures by which the disinfection of the atmosphere may be accomplished. It has been shown by various experiments that during the prevalence of cholera there is an absence of ozone in the air. Ozone is a peculiar element, which is supposed to be oxygen acted upon by electricity. It is characterized when in a concentrated form by a peculiar, pungent odor, "and by its intensely oxidizing and bleaching power, so that substances on which common oxygen produces no effect are rapidly oxidized on contact with air which contains only a small portion of this odorous principle." *

To detect the presence or absence of ozone in the atmosphere, Schönbein, the discoverer of this element, prepared slips of paper, which, having been soaked in distilled water, were placed in a solution of iodide of potassium and starch, in which they were left for five or six hours. They were then dried in a cool, dark place, in the horizontal position, so that the iodide solution might be equally diffused.

The experiment is performed by hanging these papers in a box from which the bottom has been removed. They should not touch or rub against each other, and on being exposed for observation should be moistened with distilled water. If ozone is present in the atmosphere, the slips are rendered blue; if the ozone is deficient, no change of color is produced.

Various other processes have been described by which these papers may be prepared and the presence of ozone determined. Conspicuous among them are the methods of Moffat, Lowe, and Beard.

Although by some authorities the peculiar properties ascribed to ozone are doubted, still the majority of observers describe it as the vital element of the air; "*that from its presence oxygen is life-supporting, and that in the absence*

* Brande and Taylor's Chemistry, p. 110.

of ozone offensive products in the air are increased, and all diseases which show a putrefactive tendency are influenced injuriously." *

Several methods for the artificial production of ozone are described: the slow oxidation of phosphorus, the slow combustion of sulphuric ether. The method of Boeltzer, of adding one part of sulphuric acid to two parts of permanganate of potash, is attainable by all. This mixture will continue to give off ozone for several months.

For the purification or disinfection of the air many other expedients are suggested as of practical value. *Charcoal*, from its rapid absorption and subsequent oxidation of organic emanations. *Chloride of lime*, exposed in a shallow vessel and moistened with water, gives off chlorine, which is supposed to destroy organic matter. *Bromine*—This substance, diluted and exposed in saucers, is a popular aerial disinfectant. *Nitrous acid*—the gas may be evolved by placing a small portion of copper in dilute nitric acid—is a most powerful disinfectant. *Sulphurous acid*, most easily evolved by burning sulphur, is also supposed to act powerfully on organic matter.

It is prudent that during a cholera epidemic one or other of these disinfectants should be exposed in all rooms of houses, especially those used as sleeping-apartments; but if bromine, nitrous, or sulphurous acid be employed, great care should be used that the gas is disengaged slowly.

The theory that flies may become the carriers of cholera poison has been advanced; and as the idea carries with it an air of plausibility, effort should be made to counteract any injurious influence which they may exert. The most scrupulous cleanliness, not only of cooking-utensils and table furniture, but of the rooms in which food is stored or prepared, should be observed. Gauze covers for dishes should be used, and every appliance which may prevent their entrance into houses should be adopted.

* Peters, op. cit., p. 103; Parkes, op. cit., p. 83-85.

The occurrence of a case of cholera in any community should lead to a general and complete disinfection of all points at which the individual may have been during the few days previous to his attack. With the first symptoms of the disease the house in which the patient lies should be put in order. The various vessels and appliances for the sick should be without excitement placed ready at hand. The vessels from which drink and medicine are to be administered should be placed in the room, and not mixed indiscriminately with those in use by the healthy members of the family. A deep but narrow pit should be dug in the yard adjoining the house, in such position that no possible drainage can be established to the water-supply, and the bottom of this pit should be covered with the crystals of the sulphate of iron. A large supply of a saturated solution of copperas should be prepared, and after each vomit or dejection of the patient a quantity of this solution should be added, and the whole intimately mixed. The vessel containing the mixture should be at once carried from the house, its contents emptied into the pit; the vessel should be carefully washed, and the water which has been used for that purpose should be treated as the dejection has been. The mass at the bottom of the pit should now be covered to the depth of two or three inches with fresh earth. This maneuver must be repeated after each use of the vessel.

A tub of water, which has been strongly impregnated with carbolic acid, the addition of which must be made with boiling water, should be in a convenient position, into which all cloths or articles of clothing should be cast as soon as removed from the patient. Should necessity require bathing of any portion of the patient's person, water containing a large per cent of carbolic acid or a solution of the permanganate of potash should be employed, and in a similar fluid the attendants should frequently rinse their hands. When the dejections are passed involuntarily, and the clothing beneath

the patient becomes saturated, carbolic acid or the permanganate should be added.

Should death occur, all clothing which has been on or around the body should be at once removed and instantly thrown into the tub of carbolized water. The body should be washed in one or other of the disinfecting fluids, and all water which has been used on the person or on the clothing must be treated as the dejections have been. Should the mattress be found soiled with the discharges, it should be burned at once. Indeed it would always be more prudent to destroy by fire all fabrics which have been soiled by these fatal dejections than to risk the development of a single new case. The body having been placed in the casket, crystals of sulphate of iron or of permanganate of potash should be placed around it, so as to act upon any product of decomposition which may occur prior to burial, which in no case should be delayed.

It is prudent and well for the healthy occupants of a house in which cholera has become developed to at once subject themselves to some prophylactic treatment. Experience seems to indicate that an acid mixture containing quinine and iron is most efficient. Should a second case occur, at its termination the house should be abandoned, at least until a most careful system of disinfection shall have been instituted.

IV. INDIVIDUAL HABITS. — Niemeyer,* writing in 1870, says:

“Certain influences appear to increase the predisposition to the severer forms of the disease, or to diminish the resisting power of the organism to the action of the poison. Chief among these are errors of diet, emetics, and laxatives, catching cold, and other debilitating influences. It is true, foolish people seek to excuse their excesses at the time of cholera epidemics by saying that the mode of living can have no effect in inducing cholera, because persons who lead the most proper lives are attacked by and die of the severest forms of the disease.

Op. cit., p. 647.

Whoever is exposed to a poison whose action kills many persons, while others recover from it, is foolish to subject himself to injurious influences which lessen his chances of recovery, even if the avoidance of these injurious influences gives no guaranty of a favorable termination."

We have quoted the remarks of Niemeyer in full, so applicable are they to a class in every community who find in times of public danger only fresh and additional excuses for self-indulgence.

It is related by a prominent physician of Paducah, Ky., that during the epidemic of 1873, "after the sale of vegetables had been prohibited within the city limits, that the mortality among the poor whites and negroes diminished; but that many of the German population, regardless of the prohibition, would go out of the city and obtain vegetables. It came to be a recognized fact that Monday was the largest *burying-day*, from the fact that individuals of this class would drink excessively and eat freely during Sunday, and a large number were invariably attacked with cholera on Sunday night and Monday morning."

On the development of an epidemic of cholera it is well for all persons in whose power it may be to at once leave the infected locality. Niemeyer's rules were:

- (1) *To start soon enough.*
- (2) *To go as far as possible.*
- (3) *Not to return until the last trace of the disease had disappeared.**

Admirable rules, if adopted and carried out to the letter. But one who starts too late may carry the disease in his person; one who travels too short a distance may be overtaken by the disease; while those who return to their homes with the same haste that attended their departure not infrequently fall victims to the disease.

Flint recommends that the removal of persons in districts where, *owing to the activity of auxiliary causes, the disease is*

* Niemeyer, op. cit., p. 662.

*especially rife, should be enforced, as a sanitary measure, by municipal authority.**

Those individuals who remain in an infected locality during an epidemic of cholera, from necessity or from philanthropic motives, will do well to observe rigidly fixed rules as to their individual habits, which may properly be considered under several heads. Of personal cleanliness sufficient has already been noted; we therefore pass to other considerations.

1. *Dress.*—The surface of the body should at all times, both of the day and of the night, be fully and warmly protected. Under-garments which have become saturated with perspiration should be removed, the surface of the body briskly rubbed, and dry articles substituted. Whatever may suddenly check perspiration or induce a chilliness is considered dangerous and should be avoided. A broad flannel bandage worn over the abdomen and around the person, even in the oppressive weather of summer, will impart a sense of comfort and a decided relief to the abdominal malaise so universally experienced during a cholera season.

2. *Diet.*—While it is advisable for all persons to be careful in their diet, and rigidly to avoid all articles of food that are known to be indigestible, it is still as necessary not to produce too sudden and radical a change in the diet. In other words, excesses of all kinds should be avoided; the digestive apparatus should be encouraged to the performance of its duty by the presence of good, well-prepared, wholesome food. Beef, mutton, poultry; rice, hominy, farina; wheat, corn, rye; coffee, tea, chocolate; and the various condiments, as salt, pepper, mustard, and other spices, may be freely used. Nor can we see any reason why such articles as butter, milk, eggs, etc., which a distinguished physician prohibits under the generalization of animal products, should be prohibited. Wine, brandy, and malt liquors may not only be allowed, but when used in moderation are extremely useful in evert-

* Principles and Practice of Medicine, p. 468.

ing those debilitating influences which so often prevent the system from repelling the disease; but their use should be interdicted positively whenever undue stimulation results. Experience has shown that a debauch predisposes to cholera when the disease is epidemic.

The free use of salt with food during a cholera epidemic is strongly recommended by several writers, who urge that the debilitated condition of the stomach and bowels, which is known to predispose to cholera, is removed by its tonic influence. In this way it has undoubtedly some prophylactic power. Its value as a disinfectant is recognized.

The condition of the drinking-water should always be an object of solicitude, and it is well to cultivate self-control and to refrain from drinking water except from the supply which is habitually used; that is, a person whose home is in an infected locality should be careful to supply his family with pure drinking-water, and should impress upon one and all the absolute necessity of drinking none other.

In relation to the vexed question of the use of fresh vegetables and fruits, upon which so much has been written, it is safe to assert that such ripe and well-cooked vegetables as an individual habitually uses with impunity may be eaten during a cholera epidemic; but when it is known that certain articles have invariably produced indigestion when eaten prudence demands that they should be rigidly avoided.

The necessity of restrictions among the lower classes of society arises from the fact that persons of this sort imprudently indulge in the use of unripe and badly-cooked vegetables, or those in which the process of vegetable decomposition already has commenced. But it is not to be imagined that such fruit will *per se* produce cholera. It may induce an attack of sporadic cholera or cholera morbus, and it does predispose to the rapid development of the disease after the specific poison has entered the alimentary canal.

It is well to close this paper with a remark borrowed in

part from Dr. Murray. Concealing the truth does no good; but it creates confidence when a true knowledge of the mode by which cholera is communicated, and the absolute power which disinfectants exercise in arresting the spread of the disease, is made public.

LEBANON, KY.

DIAGNOSIS OF ABDOMINAL AND PELVIC TUMORS.*

BY J. C. REEVE, M. D.

It is mostly during the last twenty years that our knowledge in regard to abdominal and pelvic tumors has so increased as to be justly regarded as one of the great triumphs of our art. Diagnosis, upon which successful treatment so closely depends, has been especially improved. We may perhaps be best assisted in realizing our advance by a glance at a not remote period of the past. Thus a gentleman has just stated in a medical journal that he once saw, within a brief period, in a leading city of England, three cases in which a tumor was supposed to exist, and three cases of supposed pregnancy, the supposition in every case proving incorrect, the tumors being pregnancy and the pregnancy a tumor. This was in the early days of auscultation, and by that means alone a correct diagnosis was made.† Yet with all that has been done there is yet much to do, and the work is going on now as energetically as at any period of the past. The present time is peculiarly interesting in reference to every thing relating to this subject. Three important works, two of them by men of the greatest experience, have just issued from the press. New modes of diagnosis have just been

*Read before the Montgomery County Medical Society, and published by request of the Society, expressed in a resolution.

†Clinical Reminiscences. By Peyton Blakiston, M. D., etc. Medical Times and Gazette, November 22, 1873.

presented. Claims are made of others, very important in character, which have not yet been substantiated by that general testimony of independent and unbiased observers which is always required to establish scientific matters. The immediate future therefore seems to promise an advance equal to any in the past, and now seems to be a most appropriate time to survey the field, examine the situation, and mark the changes about to occur.

The first point to examine is the extent to which we can rely, in making a diagnosis, upon a microscopic examination of the contents of an abdominal tumor, withdrawn by tapping or other means. In the work of Dr. Atlee just published* the claim is made that the *fluid of ovarian cysts always contains a cell peculiar to these cysts alone*; a cell easily recognized, responding to certain re-agents as no other cell does, and consequently pathognomonic of that form of disease. This cell is described as round, delicate, transparent, containing a number of fine granules, but no nucleus; varying in size, but generally about as large as the pus-cell. On the addition of acetic acid the granules become more distinct and the cell more transparent. Ether causes the granules to become transparent without changing the appearance of the cell. The only cells likely to be confounded with them seem to be pus-cells and white blood-cells, which are distinguished by their different behavior under re-agents. The inflammatory globules of Gluge are very similar to them in appearance, but are much larger.

I should have said that the chapter in Dr. Atlee's work upon this cell is by Dr. Thos. M. Drysdale, of Philadelphia. He has devoted himself to the examination of the fluid of ovarian tumors for twenty years, and enjoyed the abundant opportunities afforded by Dr. Atlee's extensive practice. Dr. Drysdale communicates a paper upon this subject to the volume of Transactions of the American Medical Association

*General and Differential Diagnosis of Ovarian Tumors. Philadelphia.

for 1873. In this paper his claims as the discoverer of this diagnostic test are distinctly made, and their reliability reiterated. He receives the emphatic indorsement of Dr. Atlee, both in his work and in the debate which followed in the section of the Association. In the former Dr. Atlee says that in several cases of great difficulty of diagnosis he was enabled to decide only by this means; in the latter that he has over and over again based his diagnosis upon this cell.

If other recent writers upon the subject bore any thing near as favorable testimony to the value of this means of diagnosis, there would, of course, be an end of the matter. But unfortunately this is not the case. Not only do they not rely upon the cell for diagnosis, but they are not even clear as to its existence. Thus Dr. Peaslee* says: "I have not been able to detect them in the fluid of all cysts known to be ovarian, and further observation is necessary in order to determine their precise diagnostic value." He gives a representation of these cells, one showing their size as compared with pus-cells. This is copied from Koeberle, and here the ovarian cell is very much larger than the pus-cell; so much larger that they could by no means be confounded, and looking indeed very suspiciously like representations of the inflammatory corpuscle of Gluge.

In this connection too it must not be overlooked that Dr. Drysdale, in his representation of the cell given with the paper read before the American Medical Association,† has "corrected" the representation given in Dr. Atlee's work. Three granular cells of much larger size than the others, and looking again very much like the inflammatory corpuscle, are left out, and stated in a note to have been "inaccurate!"

Turning now to the work of Spencer Wells,‡ we find in the chapter on the fluids of ovarian cysts a representation

* Ovarian Tumors, New York, 1872, pp. 117-8.

† Transactions, 1873, p. 180.

‡ Diseases of the Ovaries. New York (republication), 1873.

(on page 100) of a cell which looks like the granular ovarian cell of Dr. Drysdale. It is said that "they appear to be identical with the pyoid bodies of Lebert or the exudative cells of Henle;" but not a word is said in this work of the diagnostic value of this or any other cell, much less is its presence put forward as pathognomonic of an ovarian cyst.

But absence of supporting testimony is not all. A discussion in regard to this cell was held in the Pathological Society of Philadelphia,* and its very existence was called in question. Dr. Tyson, a gentleman well known as an authority in microscopy, stated that "he was perfectly familiar with the cell spoken of as the ovarian cell, which is nothing more than the ordinary compound granule cell formerly improperly called the exudative corpuscle or inflammatory corpuscle of Gluge, and liable to be found in any locality."

I regret to say that I can contribute nothing to the settlement of this disagreement of authorities. It is not a question for the practitioner to settle, but for the microscopists, and for those with abundant material at command. So far as this part of the subject is concerned, I can but lay before you the state of the question and the position of the parties. The interest attaching to it is clear. Indeed "interest" is far too feeble a term; its importance can scarcely be over-rated. This much I will say in conclusion:

Any man who has worked at a subject for twenty years and made hundreds of microscopic examinations deserves a very respectful hearing from the profession, and very careful attention should be paid to what he claims to have seen.

It will require a very large amount of negative evidence, and from widely-different sources, to overthrow positive testimony of this amount and character.

The next point to examine is *the extent to which we are assisted in diagnosis by a physical and chemical examination*

* Medical News and Library, May, 1873, p. 75; Philadelphia Medical Times, April 12, 1873.

of the fluid withdrawn from an abdominal tumor. It is well known that there are cysts, having their origin from the vicinity of the ovaries, which most closely resemble ovarian tumors, but which from their different nature should be carefully distinguished from them. They arise from the areolar tissue of the broad ligament, from that relic of fetal life, the parovarium, or, according to some, are developed from an ovariac. How closely they resemble ovarian tumors is well stated by Dr. Atlee. "There is no condition of the female abdomen," he says, "that imitates ovarian dropsy so much as this." When the disease is fully developed the "external appearances are identical with those of unilocular dropsy at a similar stage of development." With such striking similarity of external appearance, it is an important fact that the character of the fluid in such cysts is peculiar, and such as to distinguish them without difficulty from ovarian cysts. In appearance it is peculiarly clear and limpid, like spring-water, even when viewed in bulk. Its specific gravity is very low, ranging from 1.004 to 1.010, and it contains scarcely a trace of albumen, if any at all. These characters serve to distinguish it at once from the fluid of ascites and from any of the various fluids found in ovarian cysts, and except this examination there is no means of distinguishing between the two forms of disease. There is, as Dr. Atlee says, a sensation of a *thinner* fluid communicated to the hand upon examining the fluctuation, which I have had an opportunity of verifying in a case which came under my observation, and which may excite a suspicion in the mind of the examiner, but the character of the fluid can alone decide the case.

Were this a mere refinement in diagnosis it would not merit a moment's attention, but the truth is that the most important practical consequences depend upon it. Cysts of this character, if emptied by tapping, in the majority of cases do not refill; and should they do so they are amenable to a treatment far less perilous than ovariectomy. Their limpid

contents are unirritating to the peritoneum, are readily absorbed by that membrane, and consequently, if a permanent opening be made in the cyst wall, which Dr. Atlee does by pulling it out through a very short incision in the abdomen and cutting out a piece, a permanent cure is effected. This is a most important fact connected with this branch of the subject, one which can only be appreciated by those who know how to estimate aright the uncertainties, the difficulties, and the perils of ovariectomy.

Thus far I have alluded only to what is said by Dr. Atlee in regard to these cysts, and he certainly teaches the facts here presented more clearly, and makes the practical deductions more emphatically, than any other writer. Yet a recognition of these cysts is found in other works. Thus Spencer Wells, in his recent work, speaks of cysts of the broad ligament under the general head of "extra-ovarian cysts." He recognizes the fact that the contents of these cysts are generally limpid, and that if they are emptied they frequently do not fill again. But the facts are not made nearly so prominent nor the practical deductions drawn so clearly; much less do we find any proposition of a special operation, as by Dr. Atlee, of removing a portion of the cyst-wall for a cure. Mr. Wells points out (p. 230) two conditions in the history of a case under which an extra-ovarian cyst may be suspected: "1. When it has been of many years' duration, with very little damage to the general health; 2. When it has formed with such extreme rapidity as to be almost certainly mistaken for ascites." If in a *young person* these conditions are found, he says it is almost certain that the cyst is extra-ovarian and the contents limpid. But in my limited experience I have found these conditions obtain and the patient *not young*, and an extra-ovarian cyst proved to be present.

Dr. Peaslee (p. 100) states that these cysts were recognized in England by Drs. Bird and Cæsar Hawkins before 1850, and by Dr. Clay at a still earlier date; and that the latter gentle-

man "has had forty cases cured by a single tapping, and only six of which filled again." He also states a fact with regard to them which I do not find elsewhere. It is that in the majority of cases they do not become pediculated at all. This is a most important fact, an example of which has fallen under my own observation; and it is especially important in reference to an attempt at extirpation under the impression that we are dealing with an ovarian tumor. It may possibly be advanced that these tumors being monocystic, and therefore, as a general rule, non-adherent, it is quite as well to go on and extirpate them, the difference between the danger of extirpation and that of opening the abdomen to remove a portion of the cyst being but slight. In case, however, that such a tumor has no pedicle the case is widely altered, and my own limited experience is decidedly adverse to the general doctrine as to the lesser danger of monolocular cysts. Thus, of the three fatal cases of ovariectomy I have seen, having been concerned in some way in their treatment, two were monolocular, while I have not seen a fatal case of multi-locular tumor of some seven or eight operations witnessed.

Again, on page 153, Dr. Peaslee draws, in parallel columns, the points of differential diagnosis between cysts of the broad ligament and those of the ovary. On the side of the former he places "*per vaginam*, fluctuation very clear." In a case which came under my own observation, afterward verified as a case of cyst of the broad ligament, there was absolutely no fluctuation *per vaginam*; and I mention it here especially because upon that point chiefly, the absence of fluctuation at the base, a diagnosis of cyst of the broad ligament was rejected, and that of one large ovarian cyst, with smaller cysts at the base, was adopted.

There is another form of tumor which, it is claimed by Dr. Atlee, can be distinguished from ovarian by examination of the fluid drawn from it. This is fibro-cystic tumor of the uterus, the most difficult of all to distinguish from ovarian

disease by the ordinary means of diagnosis. Spencer Wells has removed a tumor of this kind and not discovered its nature until after the operation. He says (p. 201) the diagnosis must always be "very uncertain." Dr. Atlee says (p. 262) that "no amount of experience will avail the surgeon in making a differential diagnosis by the ordinary methods of examination;" and Dr. Peaslee (p. 147) advises in doubtful cases to assume, in commencing ovariectomy, that the tumor is one of uterine fibro-cyst until the operation has progressed far enough to decide this point. Dr. Thomas* gives an instance of a tumor of this kind, which, even when removed from the body and placed on the table, deceived medical men by the sense of fluctuation it gave. Under these circumstances any addition to our means of diagnosis is to be welcomed, and if reliable its value can scarcely be overestimated. Dr. Atlee gives the *spontaneous coagulability of the fluid* withdrawn from the tumor as such a test of this kind of tumor.

Unfortunately again we do not find that support of this point and that assent of other authorities which is desirable. Dr. Peaslee mentions spontaneous coagulability of the fluid as one of the points in his table of the differential diagnosis of ovarian and uterine fibro-cystic tumors, but lays no special stress upon it. Spencer Wells speaks (page 201) of the fluid in both of his cases as "peculiar; not the viscid mucoid fluid of multilocular ovarian cysts, but a thin serum, with five, ten, or fifteen per cent of blood intimately mixed with it, and not separating until after standing for some hours."

This diagnostic point, then, like the ovarian cell, requires further investigation and further testimony. Fibro-cystic disease of the uterus is an extremely rare form of disease; but, however rare, it will not do to assume that it is not present in an individual case because unlikely, nor to neglect any and every mode of investigation.

* Diseases of Women, third edition, p. 505.

What now is the practical lesson to be derived from a consideration of the situation as here briefly presented? It is one the importance of which can not be overestimated; one which the student, investigator, and operator can never afford to neglect. It is that an examination of the contents of a tumor should always be instituted before proceeding to an operation. This is the doctrine distinctly taught by Dr. Atlee in his work. "Ovariectomy ought never to be attempted by the inexperienced surgeon without previously resorting to tapping as a means of diagnosis" (page 47). The great value of an examination of the fluid contents of tumors as a means of diagnosis is the central idea, so to speak, of Dr. Atlee's work; and in respect to the prominence which he gives to this idea, and to the emphatic inculcation of this principle, his work is, in my humble judgment, in advance of any other which has yet appeared, no matter how high may be the source from which it emanates or how extensive the experience by which it is enriched. I am convinced from my own experience that this doctrine is correct.

To obtain a specimen of the fluid of an abdominal or pelvic tumor for examination tapping has been heretofore resorted to, and until lately has been the only available means. In regard to the amount of danger attending this operation there is a very wide difference of opinion among authorities, into the statement of which it is not necessary to go. That the danger has been exaggerated there is no manner of doubt; that the operation should not be lightly undertaken, and that it is always justifiable in view of saving to the patient or avoiding more perilous undertakings is equally certain. All questions, however, in regard to tapping as a means of obtaining a specimen of the fluid of a tumor for examination have been superseded by the appearance of the aspirator, which accomplishes the end with a minimum of risk to the patient. This late and important addition to our means of diagnosis of internal tumors has occupied so much attention

of late, and has been so frequently described, as to need no description here. Having occasion to use the instrument at a time when one could not be procured, I had a needle made which I attached by india-rubber tubing to a stomach-pump, and used this very satisfactorily, and expect to use it again. It is more cumbersome than the aspirator, and does not allow a sight of the fluid as it flows out; but it answers every purpose, and furnishes a good substitute for those not within easy reach of the instrument-maker. The hypodermic syringe is also used to obtain a specimen of the fluid, and does well enough if the fluid is not too viscid to flow through the fine opening of the needle. The value of this addition to our means of diagnosis may be appreciated by the fact that one of our latest and best works on diseases of women states that there is no way of making a differential diagnosis between extra-ovarian and ovarian cysts except the exploratory incision, the greater danger of which as compared with the simple needle-puncture of the aspirator is apparent and needs no illustration.

Another mode of investigation for the diagnosis of these tumors has been recently introduced; so recently that no mention of it is made in either of the three works upon ovarian disease, all of which bear the date of 1873, yet it is one whose value and importance are apparent upon mention. I allude to *manual exploration per rectum* as taught by Prof. Simon, of Heidelberg.* The patient being placed fully under the influence of an anæsthetic, the hand is introduced through the sphincter as far as the commissure of the thumb will permit, or even the whole hand is passed in if necessary. This can generally be done without difficulty, and without resorting to incisions, which are to be made if necessary, and which entail but a few days' inconvenience and trouble to the patient. A hand which does not exceed ten inches in

*A translation of Simon's paper is published in the American Journal of Obstetrics, February, 1873.

its greatest circumference—and Prof. Simon's measures eight inches—can thus be passed, and in women, for whom it is more frequently required, more easily than in men. When the whole hand lies in the cavity of the sacrum the fingers pass still further up, and the lower two thirds of the abdomen can be explored by aid of the other hand making pressure externally, as in the ordinary bimanual exploration. The uterus, bladder, and ovaries can be felt, abnormal growths in the pelvis fully examined, and a point reached as high as the umbilicus in front and the lower edge of the kidney behind. This mode of exploration has been put to frequent practical test by its originator. He says: "In two cases of ovarian tumor in which I made use of the manual exploration, and in which the result of the exploration was controlled [verified?] by the subsequent extirpation, I accurately determined the size and length of the pedicle, the nature of the healthy ovary, the absence of adhesions to the brim of the pelvis, and in one case two fibroid tumors of the size of cherries, which were situated at the fundus uteri. In a case of multiple fibroid tumors where I explored in this manner I distinctly felt the site, size, and breadth of base of tumors in the corpus and fundus uteri. In one case I even combined a therapeutical act with the examination, in liberating one of the fibroids of the fundus which had become wedged into the pelvic cavity and pushing it into the abdomen."

This mode of exploration has been resorted to by many other eminent physicians of Germany. Prof. Spiegelberg, of Breslau, in a clinical lecture upon the diagnosis of cysts of the ovary,* speaks in the highest terms of its value. By it he says he was enabled to reach and recognize the origin of a tumor from the fundus of the uterus, and thus prevent an intended operation of ovariectomy.

I have met with a most interesting case in which a resort to this mode of investigation, only prevented by a consulting

**Sammlung Klinische Vorträge*, No. 55, 1873.

physician, would have established a diagnosis long before the progress of the case permitted one to be formed. A round, smooth, and firm but yet elastic tumor occupied a position in the pelvis between the vagina and rectum, and could be felt in the abdomen above the left ramus of the pubes. The uterus was carried above the right ramus, stood prominently out, and very distinct from the part of the tumor to be perceived through the abdominal walls. A sound passed into this organ and moved did not move the tumor. There had been no flooding, nothing in the history to point to a uterine fibroid. The tumor was punctured to obtain a specimen of its contents if a cyst, but only a small quantity, a drachm or so, of bloody fluid, was procured. Finally after several weeks, by the advance of growth, I was enabled to reach a point of junction between the posterior wall of the uterus above the cervix and the tumor, thus establishing its connection with this organ and its nature. By a rectal exploration this would undoubtedly have been made out at a much earlier period, and thus much doubt and painful uncertainty have been spared.

A review then of the subject of diagnosis of intra-pelvic and abdominal growths reveals a situation of extreme interest. Advances have just been made which can only be regarded with great satisfaction, and others are claimed to have been made which can not fail to inspire the liveliest hope. If these be established by the concurrent testimony of other observers unbiased by any personal interest in them, their originators will receive due and lasting honor. Whether established or not, the attention and study now being devoted to this subject gives assurance that here, as in every other branch of medicine, there is to be no halt in that progress which is characteristic of the age.

DAYTON, OHIO.

Reviews.

A System of Midwifery, including the Diseases of Pregnancy and the Puerperal State. By WILLIAM LEISHMAN, M.D., Regius Professor of Midwifery in the University of Glasgow, etc., etc. Philadelphia: Henry C. Lea. 1873.

We are satisfied that no one who has carefully read the historical and critical essay on the mechanism of parturition by this author will fail to pay the same attention to this work on obstetrics which he now presents to the profession. They would expect to find the same evidence of careful clinical study, the same scholarly acquaintance with doctrine, and the same influence of the spirit of truth which were shown in the treatment of a portion of the subject extended to the whole. We are happy to be able to state, after a careful perusal and examination of this volume, that they will not be disappointed. That the work deserves unqualified laudation, that it does not in some points need correction, we would be far from maintaining; yet, in our humble opinion, the author has succeeded in presenting to the profession an admirable treatise, especially in its practical aspects; one which is, in general, clearly written and sound in doctrine, and one which can not fail to add to the already high reputation of its author.

In our examination of the work we can but touch briefly upon two or three prominent points which may prove of general interest. Preceding the usual treatment of the anatomical and physiological part of the subject we find an introductory chapter, which is partly historical and partly upon the comparative anatomy of the pelvis. In regard to both of its

divisions we wish, in the interest of the student, that this chapter had been longer, as there is so little within his reach upon these subjects, and the study of them can not fail to increase his interest in the succeeding portions of the work, and to be in many ways advantageous to him.

Passing on to the management of natural labor, the reader will find that the author belongs to that modern school which entirely rejects support of the perinæum. He believes it to be "irrational and useless in all cases and undoubtedly hurtful in some." Admitting that, do what we may, rupture of the perinæum will occur in a certain proportion of cases (he says every one else admits it as well, to which, by the way, we do not assent), he adds: "The practitioner who never puts his hand to the perinæum will, we firmly believe, have fewer cases of ruptured perinæum in his practice than he who admits support in every form as applicable to every case of labor," and he looks upon it as "a relic of meddlesome midwifery, in which we presume by irrational and bungling interference to dictate to nature."

This is certainly a question which, like most others, has two sides. It is one of those upon which doctrine has swayed from one extreme to the other,* and it seems that we are just now about to reach one of the extremes. If the choice is to be between one of the extremes (as illustrated, for instance, by Ramsbotham, who counsels sitting down as soon as the head approaches the outlet, and rendering support by bracing the arm against the bedstead) and the other (which is an entire surrender of the process to nature), then we choose the latter. But, as usual in such questions, there is a medium course which we prefer to follow, and it is indicated even by the author a little further on. It "consists in *watching*

* The student will find an exhaustive statement of the history of this subject in a paper by Dr. Wm. Goodell, which is creditable not only to the author but to the literature of this country, in the American Journal of the Medical Sciences for January, 1871.

the amount of pressure to which the perinæum is being subjected;" and we italicise the key-word of the sentence, for we believe that it is only at certain critical moments and under certain circumstances that the support is of any service. If the perinæum gives way, it can only be just when distended to the utmost by the child's head, and only then can it need any support. Every one knows how gradual and intermittent is the advance, as a general rule, and during all this time we can not see why pressure is at all needed; but just at the termination of labor the distension is extreme, and if the pains are violent, we certainly believe that judicious support is efficient in preventing an accident always distressing and mortifying to both patient and physician.

There are certain classes of cases which we believe certainly require it. One of these are primiparæ, with small vulvar aperture, in whom the head distends the perinæum until it fits over it like a cap, and requiring a long time before the vulva is sufficiently dilated to allow the head to pass. These are the cases in which the continental practitioners counsel incisions. We have seen some of them in which we thought the head would perforate the perinæum in spite of all we could do, and feel very certain that we rendered efficient service by pushing or drawing the head forward and upward, causing it to hug the pubic arch, thus "imitating" nature, and by no means "dictating" to her. Another class of cases is those in which the labor proceeds with unusual rapidity. What would be the position of a young practitioner who had followed the advice not to pay any attention to the perinæum in such a case as we have lately operated on? The patient was in labor with her *third* child,* under the care of a midwife. Her delivery took place before she had scarcely time to get

* Tyler Smith says that "some of the most practiced accoucheurs who have written have stated that they have never known an instance of laceration in secret births, where the woman has been left entirely alone." See Dr. Goodell's paper. In view of this statement the above case is deserving of record.

on the bed. The child was born *through* the perinæum, the rent extending into the rectum, but not implicating the vulva! Here legal proceedings would have been commenced, upon the ground that the accident occurred because ordinary attention was not paid to the patient, had not a legal opinion been given that as a woman presumably unskilled was employed the contract only implied such services as were naturally to be expected from such an unskilled person.

Neither of these classes of cases are very numerous or of frequent occurrence; still they are seen sufficiently often to make the watchfulness inculcated by the author far better advice to follow, in our opinion, than entire departure from a course recommended by so high authority, that in case of accident the practitioner would certainly be held culpable.

The subject of the mechanism of labor is pretty fully treated, as might have been expected, because a choice subject of the author; still the controversial part is presented in an appendix, while in the body of the work the complicated movements are clearly and succinctly described, and made as plain as any student could desire.

We should in justice, we presume, give the author's position in regard to points in dispute regarding this part of the subject. The chief point is a departure from the doctrines of Naegele as to the existence of a biparietal obliquity of the head at the brim of the pelvis, by which one ear is approximated to the corresponding shoulder. In this country this is far less noteworthy than in England, unless it be to those who have only used English text-books; for Dewees and Hodge have both taught the same doctrine, and Cazeaux's work is here widely diffused among the profession.

In the appendix of this work, an abridgment of the author's essay, the student will find the arguments which sustain the views which have for adherents such names as Velpeau, Cazeaux, Dewees, Hodge, Matthews Duncan, and many others, forming the "French" school of obstetrics as

distinguished from the English, the adherents and strict followers of Naegele's doctrines.

Naegele also taught that at the outlet of the pelvis the head still retained a certain obliquity, so that the right parietal protuberance in the first position was in advance and was born first. This is denied by Hodge, Matthews Duncan, and others, all of whom claim that there is a constant parallelism or "synclitism" between the planes of the head and the planes of the pelvis. The author's remarks upon this disputed point we hold to be eminently judicious. "These obliquities are of comparatively trifling importance, and should never have been bracketed with the other and really important movements." In short, this obliquity is not an essential part of the process, and may or may not exist dependent upon the tightness of *fit* of the head to the osseous passage. Of the truth of this we have convinced ourselves by careful observation as satisfactorily as of any thing we have ever studied.

In the use of the forceps the author, like most of his countrymen, prefers the straight and short instrument. It must be understood, however, that although the instrument he recommends is straight—*i. e.*, without the pelvic curve—it certainly is not *short* relatively to other instruments. He gives the length as fourteen inches, nine for the blades and five for the handles. Now this is a length greater than that of Ramsbotham's "long" forceps, which is but twelve and three quarters inches. It is longer than Simpson's, with the pelvic curve, which is given in his works at thirteen and three quarters inches, and those made in this country measure fourteen and a half inches. It is longer than any instrument of British authority given in a very comprehensive table of measurements in Murphy's *Midwifery*,* except two. In giving preference to a longer and stronger instrument the author clearly recognizes the inefficiency of the instrument generally used by his countrymen. He does not leave the

* Second edition, London, 1862, p. 369.

matter to inference. He quotes freely from Dr. Barnes as to the necessity of strength in the instrument, and reiterates the statement that "no greater error can be committed than to sacrifice power to elegance." This is sound doctrine, and we call attention to it particularly because it is an error very frequently committed in this country, not, however, by obstetric authority—although we could mention one notable instance—so much as by the instrument-makers, who use to inexperienced buyers the specious argument that a thin blade is easier introduced than one thick enough to bear the strain necessary to render it reliable and efficient, while the finer and more delicate appearance helps the sale. We have several times weighed instruments, and compared the weight with that given by the authors recommending them, and have almost universally found them lighter than they should be. In nothing can the young practitioner make a greater mistake than in providing himself with an instrument which may give way upon the first trial to which it is subjected.

Still, longer and stronger as the author's forceps is, it is still a *straight* instrument; and we confess to surprise in reading his remarks upon the danger and difficulty and sense of responsibility to be felt upon taking in hand the long instrument. He partially removes the impression this gives by stating that he believes the dangers of the instrument have been exaggerated, and by disclaiming any dogmatic preference for the shorter instrument. It can not be overlooked, however, that in this respect he is in harmony with the great majority of the teachers of his country. The history of the forceps in Great Britain presents some curious points for reflection and consideration. The very home of the instrument, the land of its discovery, within a period not remote it has there fallen to a lower point as regards utility, and been less frequently resorted to, than in any country of the world, and this with a sacrifice of infant life which has not only been a reproach to the nation abroad, but has drawn out

severe comments from writers at home.* We speak of the general use of the forceps; for while Wigand and Boer, in Germany, may have neglected the instrument to quite as great a degree as Collins or any other British authority, they had living at the same time with them Osiander,† who, for one at least, surpassed all others there or elsewhere, before or since, in the frequency with which he resorted to it, and the influence of whose teachings could not fail to prevent that general neglect which was shown in Great Britain.

It would be curious and perhaps instructive to inquire how much influence in restricting the use of the forceps has been exerted by the faulty and inconvenient British obstetric position. That the position on the side is faulty for the patient we believe to be clear, from a consideration of her instinctive expulsive efforts during the second stage, and the extent to which the full exercise of her voluntary power is hampered by lying upon the extremities of that side, and being unable thus to use her strength to the best advantage. That it is faulty and inconvenient to the practitioner we maintain from its preventing the use of the other hand to supplement and aid the one with which he is examining per vaginam; and when it comes to the use of the forceps this position is especially inconvenient, and adds much to the difficulties in the use of the instrument, especially to the beginner. Indeed the author admits that this position adds to the difficulties of the study of the mechanism of labor; and if this be true, it certainly is so in regard to the use of instruments. Whatever claims may be made for the position in ordinary labor, when it comes to rendering instrumental assistance we can see no excuse for maintaining it. When danger, or possible danger, enters as an element into the

* See Siebold's *Geschichte der Geburtshülfe*, vol. ii, p. 755; Arneth, *Ueber Geburtshülfe und Gynäkologie in Frankreich, Grossbritannien und Irland*, Wien, 1853, p. 187; and Churchill's *Theory and Practice of Midwifery*.

† Osiander used the forceps 1,016 times in 2,540 cases; Boer used them 119 times in 29,961 cases! Abegg, *Zur Geburtshülfe und Gynäkologie*, Berlin, 1868.

case, then all other considerations should yield, and that position be assigned to the patient which renders assistance the easiest, the speediest, and the safest; and that can be no other than the position on the back, the one adopted every where out of Great Britain. It seems incredible that a nation boasting so much, and so justly too, of the practical turn of its mind should adhere to a custom which increases so much the difficulty of rendering instrumental aid in individual cases, and which, in our humble opinion, has exerted a marked influence upon the national teaching of this branch of science. We believe then that it is the obstetric position in which the woman is placed in Great Britain which has tended to limit the use of the forceps, by rendering difficult the use of any other than the straight instrument, rather than a preference for this over the one with the pelvic curve.

If this position be sustained by the argument, which we have heard, that it is immodest or indelicate for a woman to lie on her back during labor, is it not strange that this has not been generally felt by women of other nations? And again, if this be the reason, do not our British friends, by advancing it, surrender at once a strong point in the contest they are now waging upon the admission of women to the practice of medicine?

Happily great progress is making in regard to the use of the forceps in Great Britain. The Dublin school has some time since, under the lead and teaching of the two Drs. Beatty,* emancipated itself from the horror of the instrument which once prevailed. Simpson's great influence was exerted in their favor, and later Dr. Barnes has most powerfully aided the current of professional opinion in the same direction. The author continues the good work, especially in his remarks upon the absurdity of the idea which

* Dr. Beatty says "the forceps was banished from practice through the whole of this country for forty years." *Contributions to Medicine and Midwifery*, Dublin, 1866.

has prevailed, that craniotomy is a safer operation for the mother than the forceps; and while he does not go as far as we could wish in regard to the indications for their use, the influence of his work will be to extend and increase their usefulness. While doing this he is still, to the student and beginner, conservative, and impresses the wholesome doctrine that "no mere question of time or of his own convenience can ever be a sufficient warrant for operative interference."

There are many points relating to the mere practical part of the subject to which we should like to call attention and present to our readers the author's views. We have only space, however, for the following:

"The operation of turning in a contracted pelvis may thus present itself to us under two distinct aspects—as a substitute for the long forceps and as a substitute for craniotomy. As regards the former, the experience of many independent observers would seem to show that, on the principle suggested by Simpson, turning may succeed when the forceps will fail; that instrument being therefore applicable to those cases only in which the contraction is moderate in degree. Owing to the difficulty of ascertaining the exact dimensions of the head and pelvis, a safe and, we believe, a very general practice is first to make a cautious attempt with the long pelvic curved forceps; and failing that—which, in skillful hands, is a safer operation to the mother—to proceed at once to turn. Turning as a substitute for craniotomy is a more important point still; so important indeed in a conservative sense that it can not fail to command the attention of every conscientious practitioner. Impaction of the head, or difficulty of displacing it so as to admit of the passage of the hand, and a degree of pelvic contraction beyond the limit which we have stated, are the two principal contra-indications of the operation of turning. The death of the child is not necessarily so, for craniotomy at the brim is by no means so safe an operation but that it may be fairly balanced against turning, even in the interest of the mother alone."

The remarks upon anæsthesia in obstetrics are remarkably brief, occupying less than two pages. This much, however, is evident from them: there is no longer any question as to

the propriety and advisability of using anæsthetics in labor. Speaking of the opposition which was made to this great advance in medicine, the author says: "How able and sensible men could write such trash, and argue gravely against the iniquity which was being perpetrated in relieving women from the effects of the divine curse, '*in dolore paries*,' will ever remain an inscrutable psychological phenomenon." The boon is now accepted without cavil. "In the hand of the skillful practitioner it is a power for good, and never for evil." Still we must express our astonishment at the statement that a tendency to produce vomiting is one of its disadvantages; for in a very considerable experience we can recall only one or two cases, if more than a single one, in which it occurred. For the statement that "the indiscriminate use of chloroform predisposes to hemorrhage after delivery," we should prefer "the *prolonged* administration," etc. We should have been glad to have seen pointed out the classes of cases of labor not requiring operative assistance in which an anæsthetic is especially beneficial, and in which it undoubtedly shortens the duration as well as lessens the pains of the process.

In concluding our examination of this work we can not avoid again saying that Dr. Leishman has fully accomplished that difficult task of presenting a good text-book upon obstetrics. While we will not be so invidious as to say that it is the best, we will cheerfully say that we know none better for the use of the student or junior practitioner. J. C. R.

The Anatomist's Vade Mecum: A System of Human Anatomy.

By ERASMUS WILSON, F. R. S. Edited by GEORGE BUCHANAN, A. M., M. D., Surgeon and Lecturer on Clinical Surgery at the Glasgow Royal Infirmary, etc. Ninth edition. Philadelphia: Lindsay & Blakistoh. 1873.

Of all the text-books on anatomy in our language none are better arranged and none so handy as this, our oldest and

always our prime favorite. It is truly a *vade mecum*. This (the ninth) edition is edited by Geo. Buchanan, Esq., Professor of Anatomy in Anderson University, and its contents are brought fully up to the present time. Many new wood-cuts have been introduced; and though some of them are, we think, unnecessarily small, they are almost uniformly exceptionally good. It is a book to keep on one's office-table.

Relations of Colorado to Pulmonary Consumption. By
THOS. E. MASSEY, A. M., M. D. Denver, 1874.

Probably there is no subject to which the profession of this country is looking with more lively interest than that of the influence of the climate of some of our western territories upon pulmonary diseases. Animated by this feeling, we took up this pamphlet with most pleasant anticipations of obtaining information, and of which we feel that we stand in need. We regret to be obliged to say that these feelings were changed to great disappointment. We would not criticise too sharply a paper which would not attract attention were it not for the great dearth there is of information on the subject, and the general wish that this may no longer exist. We may be permitted to indicate, however, to those who may hereafter undertake the task of writing upon this subject what we here further east do *not* want in such works. We do not want long disquisitions upon Niemeyer's doctrines, which occupy about one half of this paper, especially since those doctrines are not accepted by some of the leading authorities of this country and Great Britain. We do not want pages and paragraphs made up of quotations from standard authors. We do not want beneficial effects attributed to "electric" conditions, unless the electrometer is brought into play. We do not want the effort of the work laid out on the style, even when it gives us such sentences as "un-

complicated asthma notoriously and almost constantly, and often immediately, gets the hang of the Arab trick of silent tent-folding!" On the other hand, we *do* want information upon the subject; and to whoever will give us facts in regard to the climate of Colorado, of Texas, and of various parts of California, and reliable information as to the influence of those climates upon tubercular disease, the profession will be debtor, and will not be slow to acknowledge its indebtedness.

* * *

The Physician's Dose and Symptom Book: Containing the Doses and Uses of all the principal Articles of the Materia Medica and Officinal Preparations. By JOS. H. WYTHES, A. M., M. D., late Surgeon U. S. Vol's, author of "The Microscopist," etc., etc. Eleventh edition, revised. Philadelphia: Lindsay & Blakiston. 1874.

The fact that this little *vade mecum* has reached its eleventh edition is sufficient proof that it is in demand. It is certainly a useful work, and as a trouble-saver it is without an equal of its kind.

Clinic of the Month.

CONSTIPATION IN PNEUMONIA.—Prof. Skoda observes that in cases of pneumonia the practitioner not infrequently meets with obstinate constipation, which lasts for a long time; and the question arises whether for the relief of this he should or should not resort to active measures. Before replying to this, however, the point may be first considered of within what limits of time defecation may occur normally during a state of health, in order to judge how far constipation arising in disease is a disadvantage. And we find at once that great differences exist in this respect among persons in an entirely normal condition; for while in the great majority of men a daily stool takes place, in a not inconsiderable number this happens only every second or third day, and in some even more than three days elapse. On the other hand, there are other individuals whose normal condition it is to have more than one stool a day; a circumstance not to be overlooked in delivering a prognosis when they become the subjects of diarrhea. Again there are persons, chiefly females, in which constipation lasts not only for days, but even for weeks. While such prolonged constipation continues the subject of it is still able to eat with a good appetite, no especial or remarkable effects being produced by the food taken. This, of course, is not considerable in quantity, yet it remains inexplicable how during the continuance of such a constipation any thing can be eaten. The question arises whether such constipation does not lead to alterations in the person's state of health. Upon this point it is to be observed that the *fæces* discharged by such persons are not different

from those of individuals who have a daily stool. And there is good evidence to show that the fecal residua of nutrients may long remain within the canal without any corresponding damage being done to the economy, the fæces undergoing no change during a prolonged retention which can injuriously influence it; so that the differences in the production of stools are attended with no corresponding differences in health of the individuals concerned. This position, which experience has rendered irrefragable, is unfortunately continually sinned against in practice; and Prof. Skoda warmly protests against the unwarrantable manner in which purgatives are sometimes resorted to, running risks which might be easily avoided by bearing the above considerations in mind.

With respect to the gases which are developed within the intestinal canal, they are retained as well as the fæces; but in long-continued constipation, if this be not caused by a strictured condition of the canal, in the majority of cases no gases are present. It is well known that the presence of gases in the intestinal canal is essential for procuring the expulsion of its contents, and that they facilitate this by preventing the friction of the fecal masses against the walls of the intestine. Another important office which they fulfill is that they facilitate the movements of the diaphragm, following or receding before these; and if they were not present, the movements of the abdominal parietes consequent upon those of the diaphragm must be much more considerable. That the gases developed within the canal do exert a great influence upon its evacuation may be inferred also from the fact that in all cases where they are not present such evacuations are attended with very great difficulty. Of this influence of the gases we have further proof of the fact that in individuals in whom the evacuation of fæces is very difficult this is rendered much easier by the employment of articles of diet which favor the generation of these gases. To this end the use of brown bread is especially to be recommended.

Leguminous vegetables do this to a still greater extent; but their employment is not suitable for all persons, as in many they give rise to a troublesome amount of flatulence. But in order to render the evacuation of *fæces* easy, not only is it necessary that gases should be present in the canal, but liquids also. We should therefore endeavor to supply these by ordering such as will not be completely absorbed in the canal. Ordinary soup is not suited for this purpose, as it is too easily absorbed. Acid substances should be preferred, for most acids can not be at once absorbed in the canal, because they require first to be combined with alkalies, a process that requires some time for its accomplishment. Meanwhile they produce an irritating effect upon the canal, and contribute essentially to its easy evacuation. When constipation has lasted for weeks, and is dependent upon diseased conditions, such means are of no avail. The peristaltic movements are entirely arrested, and for such a state of things different measures must be adopted. While increasing the quantity of gases and liquids in the canal, we must attempt to reproduce the peristaltic movements, the cessation of which is sometimes dependent on the spinal cord. Quinine should be given, while friction of the abdominal parietes with aromatic oils and the use of electricity should be resorted to. In many such cases faradization of the abdominal parietes has proved of marked utility. In obstinate cases hydropathic treatment may be of service, as also may warm baths; and Oppolzer used to apply cold applications to the abdomen with frequent success.

Applying the foregoing observations to the case in question, it is therefore to be observed that the mere occurrence of constipation in pneumonia should cause no anxiety; and Prof. Skoda has frequently insisted that while it is requisite to keep the patient in a state of quietude, we should avoid administering purgatives merely because constipation is present. Of course the accumulation of *fæces* may be such as to become troublesome, or the gases and fluids may be in such quantity

as to impede respiration, so that when the abdomen becomes distended interference is not only justified but imperative. And in those cases where there are constant and irritating attempts at passing stools without any evacuation taking place the practitioner must also intervene in order to obtain actual evacuations. But Prof. Skoda insists strongly that if constipation has persisted for several days, and is accompanied by distension of the abdomen, it is not to be regarded as a disadvantageous circumstance, but, on the contrary, is a far more favorable symptom than a frequent passing of stools would be. Further, he declares that it is entirely an error to suppose that the pneumonia is favorably influenced by exciting a diarrhea; in fact, it is only to add a new ailment in the shape of an abdominal catarrh, increasing the patient's sufferings and rendering his condition worse than it was. In no case where diarrhea has occurred during pneumonia has this afforded any relief to the respiration. If for the reasons above given it becomes necessary for the practitioner to interfere during the pneumonia, he should do so by means of enemata. The internal use of purgatives is almost always attended by a certain amount of irritation, even when there is no pain produced in the abdomen; and this additional irritation is not a matter of indifference in a patient already suffering from a serious disease. It is the same with the action of purgatives as with that of emetics, as set forth by Oppolzer. There does not result from their use, as is so generally supposed, any real improvement or relief in the condition of the patient, whose original malady is much oftener rendered worse in consequence. It is only when the aggravation which they have caused has subsided, and the patient has reverted to his original condition, that he feels himself apparently better. Such apparent improvement is not to be ascribed to the action of the purgatives or emetics that have been administered, but to the ease which is felt at the cessation of the irritation which they give rise to, although this may leave the patient

in the same state in which he was before these irritants were prescribed.

CHINESE PHARMACY.*—The shops in the larger cities are often so well arranged as to render it difficult to suggest an improvement. Such a shop consists of an apartment intended for the reception of the customer, another in which the apothecary and his assistants are engaged, and these are divided by a third, in which the dry medicinal agents are stored in drawers. Above the drawers are shelves for the reception of porcelain and glass vessels, in which are contained conserves, electuaries, and powders. The furniture is made of oak, ash, pine, and occasionally of rosewood, and is often painted or varnished. The drawers are all properly labeled with yellow or red paper labels. In the rear of the shop proper are the laboratory and the store-room, which are orderly and methodically arranged. Pills are the most popular form for the administration of medicines.

Pills.—These are often composed of substances which would be disgusting to the European, and are variously colored—blue, red, etc. The substances necessary to their composition—among which are most popular powdered minerals and metals of various kinds, catechu and extract of opium, hair, dried skins and bones of animals, powdered canella, rhubarb, cardamom, ginger, galanga, etc.; starches, resins, and gum resins—are mixed in granite mortars with water, gum, honey, or syrup until a pill-mass is obtained; which is rolled out, divided equally with a knife, and formed properly by hand. The following formula will give a general idea of Chinese pills: *Py-choang* (yellow sulphide of arsenic) q. s. is heated in a vessel of cast-iron until vapor is no longer evolved; is then powdered, a little of the oil of *Hông-hoa* (from the fruit of *carthamus tinctorius*) is added, the mixture is heated and formed into pills of the size of a small pea.

* Translated from the *Arch. Pharm.* by Prof. J. Lewis Diehl.

Powders are also used quite extensively, seldom simple, more generally compound. One of the most remarkable formulas for a compound powder is the following: *My-to-seng* (chromate of lead) q. s. is powdered; the powder is introduced into jujube-berries from which the seed have been removed, and the berries so filled are then charred, again powdered, and given in doses of about seven grammes.

Ointments and *plasters* are also quite popular, and are usually prepared from lard and resins of various kinds. They are usually soft, and are obtainable, ready spread upon linen or paper, from itinerant physicians upon the streets. Debeaux found such a plaster—recommended against glandular inflammation—to be composed of resinous matter, fatty oil, and a large proportion of powdered mylabris. Some of the salves have been in use anterior to our era. Such are salves containing sulphur, sulphuret of calcium, or calomel and corrosive sublimate.

Conserves.—Many vegetable substances used in Chinese medicine—such as ginger, galanga, zedoary, Japanese may-flowers, young bamboo-stems, sugar-cane, sweet and bitter oranges, etc.—are conserved by dipping them several times in boiling syrup and drying them upon trays, by which treatment they become covered with a crust of sugar, and form very popular remedial agents.

Wine and Spirits.—Grape wine is not used in Chinese pharmacy, but is supplanted by *cha-sin-kiow*, a vinous liquid obtained by fermentation from rice. Rye, barley, and maize are also used for this purpose; their flours being mixed in large jugs with water, and fermentation incited by means of *kiou-tsé* (i. e., wine-seed), which is really nothing further than yeast obtained as residuum in the vessels in which fermentation had previously taken place. Although the grape is cultivated in a number of the central provinces, wine from them is scarcely known. By the distillation of these fermented liquids their brandy is obtained, with which, among others,

the following *bitter brandy* is made: aloe, myrrh, olibanum, āā 12; curcuma, 2; they are powdered, mixed with 750 brandy, exposed in a close vessel to the sun for one month, and then decanted.

Infusions and decoctions are popular throughout China; wormwood, pennyroyal, elder-flowers, pansies, jasmine, peony-flowers, Japanese sophora, etc., being used for these.

Vegetable juices have been used by the Chinese physicians for centuries. Among these are the freshly-depressed juices of wormwood, portulaca, radishes, and of nelumbium speciosum.

The most popular remedy among those of animal origin is a glue prepared from the hide of the black ass (*N'go-kiao*). This glue must be prepared in a prescribed manner from the water of a celebrated well in the neighborhood of *N'go-Hien*, which is said to be in communication with a subterranean lake, and is by the government opened only from November to March. The glue (gelatin) is found in the markets in the form of small tablets, upon which the name and residence of the manufacturer is stamped in gold letters. It is largely sophisticated by glue obtained from other sources.

An extensive list of medicinal agents of mineral, vegetable, and animal origin is included in the paper of the author above referred to, and the special uses and supposed medicinal properties are indicated. The list includes many curious and disgusting substances.

VACCINE VIRUS.—Vaccine virus which had been preserved in gypsum (according to the method of Ferrer), and another sample which had been preserved by wrapping in tin-foil and paper, was found by Dr. E. Y. Müller to be unsatisfactory in its action when used immediately after mixing it with water or glycerine; but when it was allowed to macerate for eight days in glycerine very satisfactory results were obtained. The author has also observed that glycerine affords an

excellent preservative for the virus; and suggests that fresh virus be immersed in glycerine, believing that it will then keep for several years. (*Ibid.*)

TINCTURE OF IODIDE OF TANNIN OF DR. BOINET.—This preparation is prepared by dissolving 50.0 parts tannin in 500.0 parts distilled water, and adding 25.0 parts tincture iodine. He uses and recommends it as the primary application for all fresh wounds, and states that by this treatment he has never observed diphtheritis, and only in isolated cases pyæmia. (*Ibid.*)

MERCURY.—The injurious influence of mercurial vapors in looking-glass factories, etc., is, according to J. Meyer, entirely obviated if after the day's work about one half liter ammonia-water is sprinkled over the floor of the shops. (*Ibid.*)

POWDERED MEAT.—Powdered meat is prepared by Dan-necy, *pharmacien en chef* of the hospitals of Bordeaux, by finely chopping the fresh meat, spreading it upon muslin, and drying it rapidly in a current of air. A friable mass is formed, which readily yields a brown, nearly odorless powder, possessing a feeble saline taste, and of which one part represents five parts of fresh meat. It is used and readily taken by patients by adding a tea-spoonful to a cup of beef-tea or soup, or by spreading upon bread. For children it is mixed in certain proportions with the ingredients for biscuits. (*Ibid.*)

A NEW OPERATION FOR THE EXTRACTION OF CATARACT.—The following translation from a late monograph by Dr. R. Liebreich, Professor of Ophthalmology and Surgeon to St. Thomas's Hospital, is furnished us by J. G. Rogers, M. D.:

. . . "The patient is placed upon the back, and is not chloroformed unless he insists upon it. The pupil has been as much as possible dilated with atropia the evening previous.

The operator stands behind the head of the patient if he operates on the right eye; on the left side of the patient if it is the left eye that is to be operated upon. An assistant is not indispensable. The only instruments needed are a Graefe's knife, quite narrow, and a cystitome and scoop combined in one handle. Supposing that the right eye is to be operated on, the operator retracts the upper lid with the index-finger of the left hand, while at the same time he lightly places the medius in the internal corner of the eye on the sclerotic. The knife, with the back toward the eye, is held horizontally in the right hand in such a way that the blade will form an angle of forty-five degrees with the horizontal meridian of the eye. It must be made to penetrate the sclerotic about one millimeter from the margin of the cornea, and then passed onward through the anterior chamber so as to emerge through the sclerotic about one millimeter beyond the inner margin of the cornea, thus traversing a horizontal line a little below the border of the dilated pupil. The knife is then advanced far enough in the same direction, so that in withdrawing it the incision may be completed; at the same moment the upper lid is to be dropped. The second step in the operation consists in the careful tearing of the capsule with the cystitome. To finish the operation light pressure is to be made with the back part of the scoop against the lower border of the cornea, while at the same time a very light pressure is brought to bear upon the upper part of the cornea by the index-finger of the left hand, which at the same time retains the upper lid. By this means a slight rotation is given to the lens. Its lower border advances against the lower part of the interior surface of the iris, pushes it forward, glides along the surface to the pupil, stretches and passes through the sphincter, and finally engages itself loosely in the wound, which gapes ready to receive it, under the pressure of the scoop and finger. A light pressure of the index-finger, gliding at the same time the upper lid downward, suffices then to com-

plete the exit of the lens. The same movement of the lid is again employed to discharge the *débris* of cortical substance which may have remained, after first having caused them to pass from behind the iris through the pupil by a slight rubbing over the closed lid.

"If it is found afterward that the pupil does not appear round, but that its border seems to be retained in the wound, its normal position may be restored by an upward movement of the lower lid; or if that does not suffice, by the introduction of the curette. Afterward atropia is to be instilled and the eyes closed with a bandage.

"What then are the advantages of my method?

"*First*—Of all the methods of extraction it is certainly the simplest and least painful.

"*Second*—It is incontestably the easiest to execute, and does not demand great experience. Accordingly it recommends itself to those surgeons who have occasion to operate for cataract only at long intervals, and to those patients who can not repair to the great centers to confide themselves to the more experienced surgeons. This great facility in operating takes away all pretext for the operation of couching, which, notwithstanding a just and general condemnation, is nevertheless sometimes practiced.

"*Third*—It is preferable to the flap extraction on account of the precision and constant regularity of the incision.

"*Fourth*—It has over the method of Graefe the advantage of a more favorable location of the incision and of avoiding iridectomy entirely.

"*Fifth*—It contrasts favorably, as does the method of Graefe, with the flap extraction relatively to the progress of the cure, by reason of the slightness of the influence which age, constitution, general health, and climate exercise upon it; by reason of the less demand for quietude after the operation; and above all by reason of the slight tendency to suppuration of the cornea."

Notes and Queries.

ESMARCH'S BLOODLESS OPERATION FOR A CIRCUMSCRIBED TRAUMATIC ANEURISM BY D. W. YANDELL, M. D.—A young man was stabbed on the outer side of the left fore-arm, with a pocket-knife, on the 20th of December, 1873, the blade puncturing the radial artery at the point where the long supinator muscle overlaps that vessel. The hemorrhage was represented to have been alarming at the time and with great difficulty arrested. When the compresses and bandages used for that purpose were removed a tumor about the size of a guinea-egg was observed immediately over the radial artery, near the seat of the wound. The patient presented himself at the surgical clinic of the University of Louisville on the 10th of February. The external aperture of the wound had scabbed over. About one inch from this, on the inside of the fore-arm, there was a well-defined tumor of moderately firm consistency throughout its larger part, while a small portion was still compressible and spongy. It pulsed and afforded a distinct bruit. Compression of the brachial artery cut off both these and diminished somewhat the size of the tumor. A fair trial, extending through five days, was given to the "Dublin method," relays of students making digital compression both upon the brachial artery and immediately over the tumor itself, but without other effect than to weary the patient. "Manipulation" after the method proposed by Sir William Fergusson, and successfully executed in a case of popliteal aneurism by Mr. Teale, was also attempted with no better results.

On the 16th of February the patient was brought before the class, chloroformed, and Esmarch's elastic bandage applied by my friend, Dr. Kastenbine, from the fingers to the mid-arm. Immediately above the bandage a rubber cord was wound tightly several times round the limb to compress the afferent vessels, and tied. The bandage was now removed and the usual incisions made. Not a drop of blood followed. The operation was in all respects as easy and as quick of execution as though done on the cadaver. The tissues were almost of a waxy whiteness. The sac was exposed, opened, and its contents turned out; the wound in the artery was brought clearly into view, the vessel itself being entirely empty; a ligature was thrown above and below the puncture, and all without so much as soiling my fingers or the knife. The rubber cord was now removed, when the limb, before completely blanched, quickly flushed, and blood began to ooze from the cut surfaces. The torsion of a few vessels, the elevation of the limb, and a cold sponge or two quickly stanching the blood. The ligatures used being carbolized and their ends cut short, the edges of the wound were sealed with the view of securing immediate union. This, however, did not take place, but whether this was due to the operation or to other causes I do not know. The sac was dense and lined by several layers of fibrin. The extravasated blood was firmly coagulated. The opening in the vessel was about the size of a darning-needle. It was my wish to apply the bandage, allow it to remain for some minutes, remove it, and note the effects on the aneurism; but to this the patient positively refused his consent. I shall certainly try it on the first suitable case. The patient left for his home, in a distant part of the state, the third day after the operation, with a healthy suppurating wound.

THE KENTUCKY STATE MEDICAL SOCIETY.—Our Kentucky readers, we trust, will bear in mind the annual meeting of

our State Medical Society, which is to be held this year at Shelbyville, on Tuesday, the 7th of April. These professional reunions increase every year in scientific interest, while their social influence is felt by its members to be of the happiest character, and in every respect the approaching meeting promises to be one of the best ever yet held. Shelbyville is the center of a refined and cultivated population, and from the earliest times has claimed a faculty worthy of its reputation for intelligence. Among its scholarly and excellent physicians the Society will have no trouble in finding an officer fitted in every way to preside at its meetings and represent it before the profession of our country.

The agents of Tiemann in this city have been authorized to promise that an assortment of the surgical instruments of that celebrated manufacturer will be on exhibition at Shelbyville during the meeting of the Society.

ARMY STAFF RANK.—The medical societies throughout almost the entire country have taken action in the matter of the rank and pay of the medical officers of the army, warmly urging upon Congress the increase of both—an act, it seems to us, of the simplest justice. The Boyle County Medical Society, one of the leading societies in the state, recently proposed the following resolutions:

“1. That this Society hereby expresses its hearty commendation of the recent memorial of the American Medical Association to Congress in support of a bill to increase the efficiency of the medical department of the United States army now before that body.

“2. That this society considers the passage of said bill simply an act of justice to one of the most important branches of the military service, composed, as it is, of gentlemen of the highest professional attainments and general culture, and whose duties are not to be outweighed in responsibility by any other arm of the service; that the members of it should hold the same rank and enjoy the same emoluments as members of the other staff-corps of the army.

"3. That we respectfully urge upon the member of Congress from this congressional district the support of said bill.

"4. That an authenticated copy of this resolution be forwarded to the Hon. M. J. Durham and the other congressmen and senators representing the state of Kentucky in Congress."

MONSEL'S SOLUTION.—Dr. Joseph G. Rogers, of Madison, Ind., sends the following :

"A recent contribution to the American Practitioner highly praises the action of this agent as a styptic in hæmatemesis, and recommends its exhibition in doses much larger than justified by all previous authority. The following scrap of clinical history will support the eulogium and the doses.

"January 4th a case of typhoid fever in a young male adult came under my care, and progressed very favorably until the 14th, when a slight epistaxis occurred. This was stopped by a snowball applied externally, but the next day it re-appeared, accompanied by some bleeding from the mucous surface of the mouth, and a manifestation of numerous petechiæ over the abdomen and thorax. The patient was then ordered ergot, tannin, and lemon-juice in addition to the hydrochloric acid which he had been taking previously, and the persulphate of iron in solution and powder as a local application. A thorough trial of these means during a day and night produced no very satisfactory results; the bleeding was somewhat checked, but not entirely. On the morning of the 16th the nose was plugged and the epistaxis permanently stopped. At noon nausea ensued, which was soon followed by vomiting and purging of large quantities of black fluid, which under the microscope showed a heavy proportion of red corpuscles, which differed widely from the normal in being smaller and frequently very irregular in outline. The urine and blood from the mouth exhibited the same peculiarity. In three hours as many gallons of bloody fluid were ejected. The previous treatment was at once suspended, and thirty minims

of Monsel's solution were given in two ounces of ice-water every hour until five drachms had been taken. After the second dose the nausea and discharges stopped, and during the ten hours of its administration no disagreeable effects were produced by the iron save a very "puckered" state of the tongue and mouth. As a hæmostatic its success was signal. No hemorrhage occurred afterward; but, owing to the extreme prostration produced by the extensive internal transudation, concealed until its very bulk caused its ejection, on the fourth day thereafter the patient succumbed, notwithstanding every effort was made with stimulants, etc., to combat the asthenia. Perhaps had not the loss been so great, general, and sudden, the exhibition of the iron might have saved the patient from such a death. The lesson taught is that Monsel's solution may be given in very large doses without detriment, and with great advantage as an internal styptic."

DR. HENRY MILLER.—This eminent practitioner and teacher of medicine died at his residence, in this city, on Sunday, the 8th of February, in the seventy-fourth year of his age. For many years Dr. Miller has held the foremost place among the obstetricians of Kentucky, and a high rank among those in America noted for their skill in this line of our profession, having distinguished himself as much by his writings on obstetric medicine as by his ability as a teacher and practitioner. He was permitted to devote more than half a century laboriously to the practice of medicine, and during much the larger portion of that time his mind and studies were directed specially to the department of it in which he achieved his great reputation. At the period of his death he was the oldest physician in Louisville actively engaged in practice. Of all those whom he found in the field when he came to the city, forty years ago, he leaves but one behind him fit for active duty, and he survived all but one of his earliest colleagues—those associated with him in founding the medical

school in which he passed the most profitable years of his life. He was one of the connecting links, fast disappearing, between the present generation of physicians and the race which shaped medicine in the backwoods of Kentucky and organized medical education in the West.

Dr. Miller was born at Glasgow, Ky., on the 1st of November, 1800, beginning life with the century. He evinced early an aptness to learn, which was improved by the best seminaries of learning within his reach; and although he left school at an age when most boys are only beginning to study, he acquired a correct knowledge of his own language and no inconsiderable acquaintance with the Latin. He says of himself: "His education was not acquired in academic halls, but in the primitive school-houses of his native state, and upon the ample sward, shaded by forest-trees, appurtenant thereunto. So that, you see, he was reared after the fashion of Socrates—imbibing knowledge in the school-house, under the shade of trees, and not unfrequently perched upon their boughs."

He commenced the study of medicine at the early age of thirteen, spending six years in the office of his preceptor in Glasgow, compounding medicines and visiting the sick, before attending medical lectures. When he repaired at last to Lexington to attend a course in the Medical Department of Transylvania University, just organized, he was one of the most matured students in the class, though only then nineteen years old. He was graduated, at the end of his second course, in the spring of 1821, and a year later received the appointment of demonstrator of anatomy in the school. His superior mind and devotion to his profession gave assurance of eminence in it; but for some reason the professor of anatomy discouraged the idea of dissections by his pupils, and Dr. Miller declined, under the circumstances, to enter upon the duties of demonstrator. After practicing physic a few years in his native village he removed to Harrodsburg,

where, in addition to the population of the town, the springs (in charge of his old fellow-student, Dr. Graham) drew great numbers of wealthy visitors from the South, rendering the practice highly remunerative. But he was not yet satisfied with the theater upon which he was acting, and in 1833 came to Louisville, where a medical school had been projected. Dr. Miller was elected to the chair of obstetrics in the proposed school, the Louisville Medical Institute. For several years, however, the Institute did not go into operation, and during the time Dr. Miller devoted himself to general practice. When, in 1837, the citizens of Louisville resolved to endow the Medical Institute with a munificence which should place it on an equal footing with the best schools of medicine in our country, he was at once recalled to the chair of obstetrics, which, with great delicacy, he had resigned, in order that the board of managers might be left free in the selection of a faculty.

In this position he found all that he wanted for the development of his powers, and he enjoyed it for many years. It gave him pre-eminence in the line of his profession, to which he devoted himself by choice. During those years he wrote a work on obstetrics, the publication of which greatly extended his reputation, and his business from abroad, as well as at home, steadily increased. In 1858 he resigned his professorship, but returned once again to the school which he had aided in founding, only, however, to remain in it a single session.

Dr. Miller was remarkable rather for solidity than for brilliancy of intellect. He had wit, humor, and imagination; but the quality of mind which gave him his influence among men and his reputation as a practitioner was his clear, vigorous understanding. This imparted weight to his opinions on all subjects, and caused him to be sought oftener as a consulting physician than most of his professional associates. Withal he was a reader of medicine to the last, and kept

himself abreast with the improvements in his profession. About a year before he died he made a public profession of religion, and united with the First Presbyterian Church of this city. The following are some of the testimonials of respect to the memory of the deceased adopted by the profession of Louisville.

At a meeting of the physicians of the city the following resolutions were unanimously adopted:

"When in the providence of God distinguished men are removed by death from the scenes of their earthly labors it is the privilege of their associates and the duty of their friends to offer public testimony in their honor and pay just tribute to their memory. Prof. Henry Miller, of this city, having after a few brief months of illness been relieved of his sufferings by death, we, the physicians of Louisville, on this sad occasion do unanimously resolve:

"1. That we have heard of the death of our distinguished brother with sincere sorrow.

"2. That it is our pleasure to testify to his spotless character as a citizen, his great and deserved reputation as a practitioner, his uniformly honorable career as a teacher, his eminent success as an author, his unblemished record in his relations with his brethren, to the entire confidence inspired by him among the sick intrusted to his care, to the valuable services rendered by him to the many medical societies which he fostered and instructed, to his admirable observance of all professional rules and requirements, as the result of which he signally secured dignity and respect for that profession which he so eminently adorned.

"3. That we tender to his family our sincere sympathy.

"4. That we will attend his funeral in a body, and will unite with them and his many bereaved friends in performing the last sad obsequies in behalf of one whose memory his state, his country, and his profession will ever cherish with pride and admiration."

Dr. Miller's colleagues in the Louisville Medical College published the following:

"Whereas, it has pleased Almighty God to remove from the field of his earthly labors our distinguished friend and colleague, the late Prof. Henry Miller; and whereas it is the duty of all men

to take proper public as well as private action in honor of their distinguished dead:

"Resolved, that we, the members of the Louisville Medical College Faculty, have heard with pain of the death of our distinguished associate, who for so many years has labored with us in the founding of this institution, of which Faculty during this entire period he has been the honored president.

"Resolved, that we bear cheerful testimony to the eminent worth of the deceased in all of the varied relations of his past life, as a citizen of unblemished character, as a physician of deserved and thoroughly recognized distinction, as a teacher of uniform fidelity and efficiency, and as an author of well-earned and wide-spread reputation.

"Resolved, that we attend the funeral obsequies in a body, accepting the invitation of his family to act as pall-bearers on this sad occasion.

"Resolved, that the President of the Board of Trustees is invited to deliver, in memory of our late President of the Faculty, a memorial address on the evening of the approaching commencement exercises of this college.

"Resolved, that we tender our sincere sympathies to the family of the deceased; that a copy of these resolutions be sent to them, and they be recorded in the minutes of this institution."

The Faculty of the Medical Department of the University of Louisville took the following action in regard to the sad event:

"Whereas, we have heard of the death of Prof. Henry Miller, who was among the founders of the Medical Department of the University of Louisville, and who for more than thirty years (from 1837 to 1868) filled the chair of obstetrics in this institution; whose name is affixed to hundreds of the diplomas under which the graduates are practicing; whose earnest labors in the cause of medical instruction, and whose researches in medical science and admirable treatise on obstetrics won him a place in the foremost rank of medical teachers, practitioners, and writers of his time, and especially made his fame as an obstetrician world-wide; therefore resolved,

"1. That in the death of Prof. Miller not only the profession of this city but that of the whole country has met with an inestimable loss.

"2. That we tender to the family our sympathies in their bereavement.

"3. That we attend his funeral in a body with the medical class.

"4. That these resolutions be spread upon our minutes."

A SENSIBLE PHYSICIAN.—The "Gold-headed Cane" relates that it was a maxim with Dr. Baillie that the most successful treatment of patients depended upon the exertion of sagacity or good common-sense, guided by a competent professional knowledge, and not by following strictly the rules of practice laid down in books, even by men of the greatest talents and experience. "It is very seldom," was he used to say, "that diseases are found pure and unmixed, as they are commonly described by authors; and there is almost an endless variety of constitutions. The treatment must be adapted to this mixture and variety in order to be as successful as circumstances will permit; and this allows of a very wide field for the exercise of good common-sense on the part of the physician."